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Botanical Gazette.

Vol. V. JANUARY, 1880. No. 1.

Editorial.—With this number begins the fifth volume of the Gazette. We do not wish to press its claims too persistently, but at the same time, we do not wish them to be lost sight of, and the volume might as well begin as usual, with both a retrospect and a prospect. When, in November, 1875, the Gazette made its first appearance, bearing the already preoccupied name of Bulletin, having four pages and not a single subscriber or contributor even promised, it was felt to be a hazardous experiment. If the usual methods had been employed, the Gazette would never have seen the light of day. In the first place, consultation with botanical friends would probably have frost killed the nascent bud. There would have been objections to the paper and more serious ones to the editor. If it had escaped this ordeal, the attempt to get subscriptions and notes before beginning would have destroyed the last lingering spark of life the frost had left. But those dangers were avoided by acting in no such prudent way, but by starting as if all botanists were encouraging and there was a large subscription list pledged. The end of it was that the Gazette was not a paying investment for the first year. and not much better the second. The third and fourth years have seen a rapid advance, and the time has come at last when it seems that the Gazette is really able to completely pay its way. At the same time the printed matter has been quadrupled and the subscription kept at the original price.

There has been another favorable change. The first volume or two were mainly editorial, and as neither of the editors had had a particularly large botanical experience, there was sometimes a good deal of space devoted to a very little matter. Now the editor need not write at all with the object of supplying the call for "copy," but only for the purpose of stirring up friends whose zeal begins to flag, and of convincing strangers that they had better be strangers no longer. In view of the fact, then, that in the struggle for existence the Gazette has seemed to be the fittest to survive, while others have perished, we would urge that botanists take vigorous hold and by means of subscriptions, advertisements and contributions, make this volume unexampled for its rapid advance.

Catalpa speciosa, Warder.—A middle sized tree with grayish-brown, much cracked or furrowed, at last slightly flaky bark and light, yellowish gray wood; leaves large. truncated or more or less cordate at base, slenderly acuminate, soft downy on the under side, inodorous; flowers in large and loose panicles; tube of the corolla conical, longer than wide, its lower part scarcely protracted; upper lip before its expansion longer than the other lobes and enveloping them, lower lobe bilobed, inside of corolla slightly marked at the throat with red-brown lines, and with two yellow bands at the commisures of the lowest with the lateral lobes; stamens and style as long as the tube; pod terete, strongly furrowed; wings of seed about as long as the seed itself, and rounded at the ends and split into a broad coma.

Common in the low, rich, sometimes overflown woodlands near the mouth of the Ohio, along the lower course of the river and its confluents, and in the adjoining lowlands of the Mississippi; in the States of Illinois, Indiana, Kentucky, Tennessee, Missouri and Arkansas; according to Michaux abounding near the borders of all the rivers which empty into the Mississippi further south; whether the localities, cited by him, of West Florida produce this or the Eastern species, is at present unknown.—Flowers in May.—This tree has quite an interesting and instructive history. It was already known to Michaux and to many botanists and settlers in those regions; even the aboriginal Shawnees appreciated it and the French settlers along the Wabash named it for them the Shawnee wood (Bois Chavanon) and prized the indestructable quality of the timber, but the botanists, even the subtle Rafinesque, who roamed over those very regions, seem to have taken it for granted that it was not distinct from the Southeastern *Catalpa bignonioides.* To me the fact that these trees, then not rarely cultivated in St. Louis,* produced their larger and more showy flowers some 10 or 15 days earlier than the Eastern or common kind, was well known as early as 1842 and their blossoming has since been annually recorded in my notes on the advance of vegetation, but I had not the sagacity or curiosity to further investigate the tree. It was reserved to *Dr. J. A. Warder*, of Cincinnati, to draw public attention to it. He was struck with its beauty in the streets of Dayton, Ohio, where a few stragglers were cultivated, and described it cursorily in his Journal, the Western Horticultural Review, Vol. III, page 533, without deciding whether a distinct species or a variety, and without assigning a name to it. It was soon named, however, privately as it seems, by him and his friends *Catalpa speciosa* and was propogated as a more ornamental form. Thirteen years later I find in the catalogue of J. C. Teas' nursery, Baysville, Indiana, for 1866, *Catalpa speciosa* offered, the 100 one year old seedlings for $1.50. But only within the last few years the beauty and importance of the tree has made a greater impression on the public mind, principally through the exertions of Dr. Warder himself, Mr. E. E. Barney, of Dayton, and Mr. R. Douglas, of Waukegan, Ill. The latter was so much struck with the future importance of this species that in the Autumn of 1878 he collected on the lower Ohio 400 pounds of its seed for his own nursery and for distribution to all parts of the world.

Catalpa speciosa replaces *C. bignonioides* entirely in the Mississippi valley. It is readily distinguished from it by its taller and straighter growth, its darker, thicker (½–1 inch thick), rougher and scarcely exfoliating bark (in the older species it is light gray, constantly peeling off and therefore not more than 2 or 3 lines thick); its softly downy, slenderly acuminate and inodorous leaves (those of *bignonioides* have a disagreeable, almost fetid odor when touched), marked with similar glands in the axils of the principal veins of the under side; by its much less crowded panicle and by its much larger flower, fruit and seed The flowers I found 2 inches in the vertical and a little more in the transverse diameter; in the other they have 1⅔ inches in each diameter; the lower lobe is deeply notched or bilobed in *speciosa*, entire in *bignonioides;* the tube in the former is conical and 10 lines, in the latter campanulate and about 7 lines long, in the first slightly oblique, in the other very much so, the upper part being a great deal shorter than the lower one, so that the anthers and stigma * become uncovered; the markings in the flower of the old species are much more crowded and conspicuous, so as to give the whole flower a dingy appearance, while ours looks almost white. The upper lip of the corolla before expansion extends beyond the other lobes and covers them like a hood in the Western species, while in the Eastern it is much shorter than the others and covers them only very partially. The pods of our species are 8–20 inches long, 17–20 lines in circumference, dark brown and strongly grooved, when dry, the placental dissepiment very thick; in the Eastern species the pod is nearly the same length, but only 9–12 lines in circumference, its grooves very slight, its color pale and dissepiment flat. In both species the pod is perfectly terete before the valves separate, after that the valves of ours remain more or less semiterete, while the much thinner ones of the other flatten out, so that they *seem* to indicate a compressed pod. The elongated seeds winged at both ends, are of about equal length in both species, but in *speciosa* they are much wider (3½–4 times) and the wings have more or less rounded ends which terminate in a broad band of rather short hair; in *bignonioides* the seeds are only 2½–3 lines wide, with pointed wings and their tips terminating in a long, pencil-shaped tuft of hair.

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*It seems singular, that the common Eastern species has in our streets almost completely supplanted the much handsomer native.

Our tree is larger, of straighter growth and being a native of a more Northern latitude is hardier than the Southeastern species; the wood of both is extremely durable, perhaps as much so as that of our red cedar, and has the advantage over it of a much more rapid growth and of possessing only a very thin layer (2 or 3 annual rings) of destructible sap wood. But of these qualities and of its adaptability to many important uses others, and especially Mr. Barney in a recent pamphlet, have given a full account It is already extensively planted in our Western prairie States and especially along railroads, for which it is expected to furnish the much needed timber in a comparatively short time.—G. ENGELMANN, *St. Louis, January 1, 1880.*

TENNESSEE PLANTS.—Along with specimens we receive from time to time valuable notes from our esteemed correspondent, Dr. Gottin-

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*I may here remark that *Catalpa*, probably like all its allies, is proterandrous, the anthers open in the morning and the lobes of the stigma separates and become glutinous toward evening, the upper lobe remaining erect, the lower turning down close upon the style. I have not ascertained how they are impregnated as at that time the anthers are effete, and by the following morning the lobes of the stigma are again closed.